

PATENT COOPERATION TREATY



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

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| Applicant's or agent's file reference<br><br>020277WO  | <b>FOR FURTHER ACTION</b>   | See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) |
| International application No.<br><br>PCT/EP2003/008905   | International filing date (day/month/year)<br><br>11 August 2003 (11.08.2003) | Priority date (day/month/year)<br><br>13 August 2002 (13.08.2002)                                   |
| International Patent Classification (IPC) or national classification and IPC<br><br>B29B 17/00 |   |   |
| Applicant<br><br>CARCOUSTICS TECH CENTER GMBH  |   |   |

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| <p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of <u>4</u> sheets.</p>  |
| <p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li>I <input checked="" type="checkbox"/> Basis of the report</li> <li>II <input type="checkbox"/> Priority</li> <li>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li>IV <input type="checkbox"/> Lack of unity of invention</li> <li>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li>VI <input type="checkbox"/> Certain documents cited</li> <li>VII <input type="checkbox"/> Certain defects in the international application</li> <li>VIII <input type="checkbox"/> Certain observations on the international application</li> </ul> |

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|---|---|
| Date of submission of the demand<br><br>14 February 2004 (14.02.2004) | Date of completion of this report<br><br>05 January 2005 (05.01.2005) |
| Name and mailing address of the IPEA/EP                               | Authorized officer  |
| Facsimile No.   | Telephone No.   |

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP2003/008905

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

 the international application as originally filed the description:

pages \_\_\_\_\_ 3-6 \_\_\_\_\_, as originally filed

pages \_\_\_\_\_, filed with the demand

pages \_\_\_\_\_ 1, 1a, 2 \_\_\_\_\_, filed with the letter of 25 August 2004 (25.08.2004)

 the claims:

pages \_\_\_\_\_ 6-13 \_\_\_\_\_, as originally filed

pages \_\_\_\_\_, as amended (together with any statement under Article 19)

pages \_\_\_\_\_, filed with the demand

pages \_\_\_\_\_ 1-5 \_\_\_\_\_, filed with the letter of 25 August 2004 (25.08.2004)

 the drawings:

pages \_\_\_\_\_ 1/1 \_\_\_\_\_, as originally filed

pages \_\_\_\_\_, filed with the demand

pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

 the sequence listing part of the description:

pages \_\_\_\_\_, as originally filed

pages \_\_\_\_\_, filed with the demand

pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

 the language of a translation furnished for the purposes of international search (under Rule 23.1(b)). the language of publication of the international application (under Rule 48.3(b)). the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

 contained in the international application in written form. filed together with the international application in computer readable form. furnished subsequently to this Authority in written form. furnished subsequently to this Authority in computer readable form. The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished. The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.4.  The amendments have resulted in the cancellation of: the description, pages \_\_\_\_\_ the claims, Nos. \_\_\_\_\_ the drawings, sheets/fig \_\_\_\_\_5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

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## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

|                               |        |      |     |
|-------------------------------|--------|------|-----|
| Novelty (N)                   | Claims | 1-13 | YES |
|                               | Claims |      | NO  |
| Inventive step (IS)           | Claims | 1-13 | YES |
|                               | Claims |      | NO  |
| Industrial applicability (IA) | Claims | 1-13 | YES |
|                               | Claims |      | NO  |

## 2. Citations and explanations

Reference is made to the following document:

D1: US-A-5 422 385 (FARKAS PAUL V) 6 June 1995  
(1995-06-06)

Novelty

Document D1 is considered the prior art closest to the subject matter of claims 1 and 7 and discloses (the references between parentheses refer to that document):

Sound-insulating material produced from rubber (12) that is mixed with PUR plastic (13), the rubber forming a matrix in which a number of gas-filled hollow bodies (14) are embedded.

The subject matter of claim 1 thus differs from the known material in that the rubber (12) is formed from thermoplastic rubber particles.

Document D1, which is regarded as the closest prior art, also discloses a method, from which the subject matter of claim 7 differs in that thermoplastic

rubber particles and PUR plastic particles are extruded with the addition of a blowing agent to form a foam-like mixed material, the blowing agent being added in the form of hollow micro-bodies which contain a blowing agent, have a mixed polymer shell and expand when heated.

The subject matter of claims 1 and 7 is thus novel (PCT Article 33(2)).

Inventive step

The present invention can therefore be considered to address the problem of being able to produce sound-insulating material by extrusion without losing as a result of the extrusion pressure the hollow spaces that are essential to the sound-insulating effect.

The solution to this problem proposed in claims 1 and 7 of the present application involves an inventive step (PCT Article 33(3)) for the following reasons:

The prior art discloses methods in which sound-insulating shaped bodies are produced using isocyanate-based matrix materials. A disadvantage of this material is that it cannot be shaped further following hardening, since it does not have thermoplastic properties. It is difficult to use thermoplastic materials, since the high pressure used during the process makes it difficult to produce the hollow spaces required.

The solution to this problem is defined in claims 1 and 7, which use thermoplastic rubber and hollow

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bodies filled with gas. The pressure in the hollow bodies increases with the processing temperature during extrusion, the extrusion pressure encountering resistance.

Claims 2 to 6 and 8 to 13 are dependent on claims 1 and 7, respectively, and therefore likewise meet the PCT requirements for novelty and inventive step.

Industrial applicability

The subject matter of the claims is industrially applicable and therefore meets the requirements of PCT Article 33(4).